

Whole Energy System Coordination for a Net Zero Future

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New Thinking For Energy



Definitions

- Whole system energy governance links the global through to the local; across sectors (within energy and between sectors, such as land use and water etc); and scales
- Energy Governance dimensions include
 - policies, institutions (at all levels), economic regulation, network rules, market design, retail policy etc **AND**
 - the decision-making processes behind those rules and incentives*
- Governance impacts on costs and revenues (and therefore energy economics); sets eligibility (eg Licenses, DSR (or not) in capacity mechanism; sets rules (Codes for system operation, market design); reveals value (or not) through markets; enables choice (or not)

Importance of Governance

- Just because there is a policy does not mean it will be implemented, if governance is not aligned to it
- If we want an equitable net zero energy system then the governance needs to enable its features and values
- Hypothesis: if governance does align with the features and characteristics of a net zero energy system **AND** enables coordination across the whole energy system, then energy system transformation can scale up / accelerate

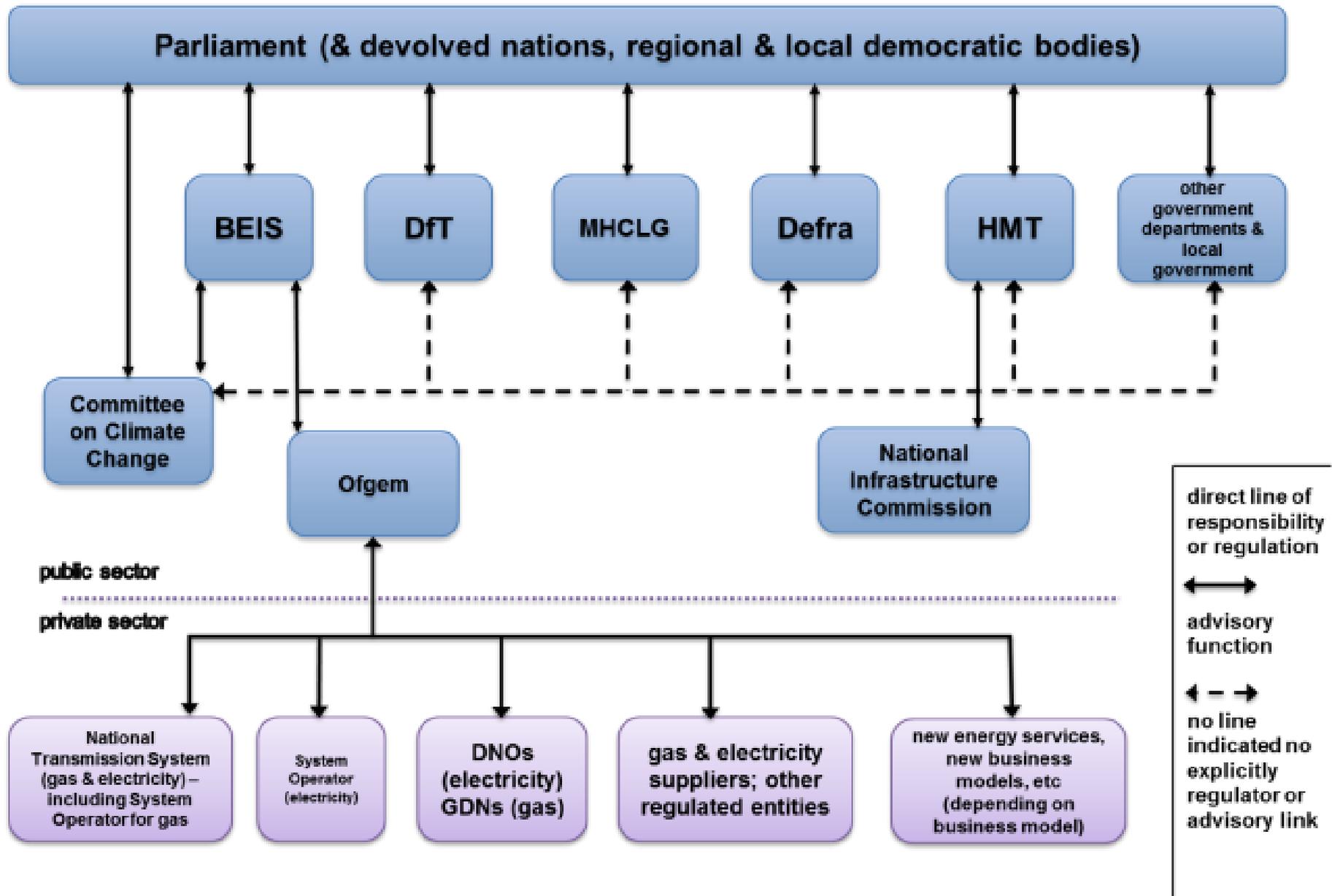
From IGov Project (2012-2019)

<http://projects.exeter.ac.uk/igov/>

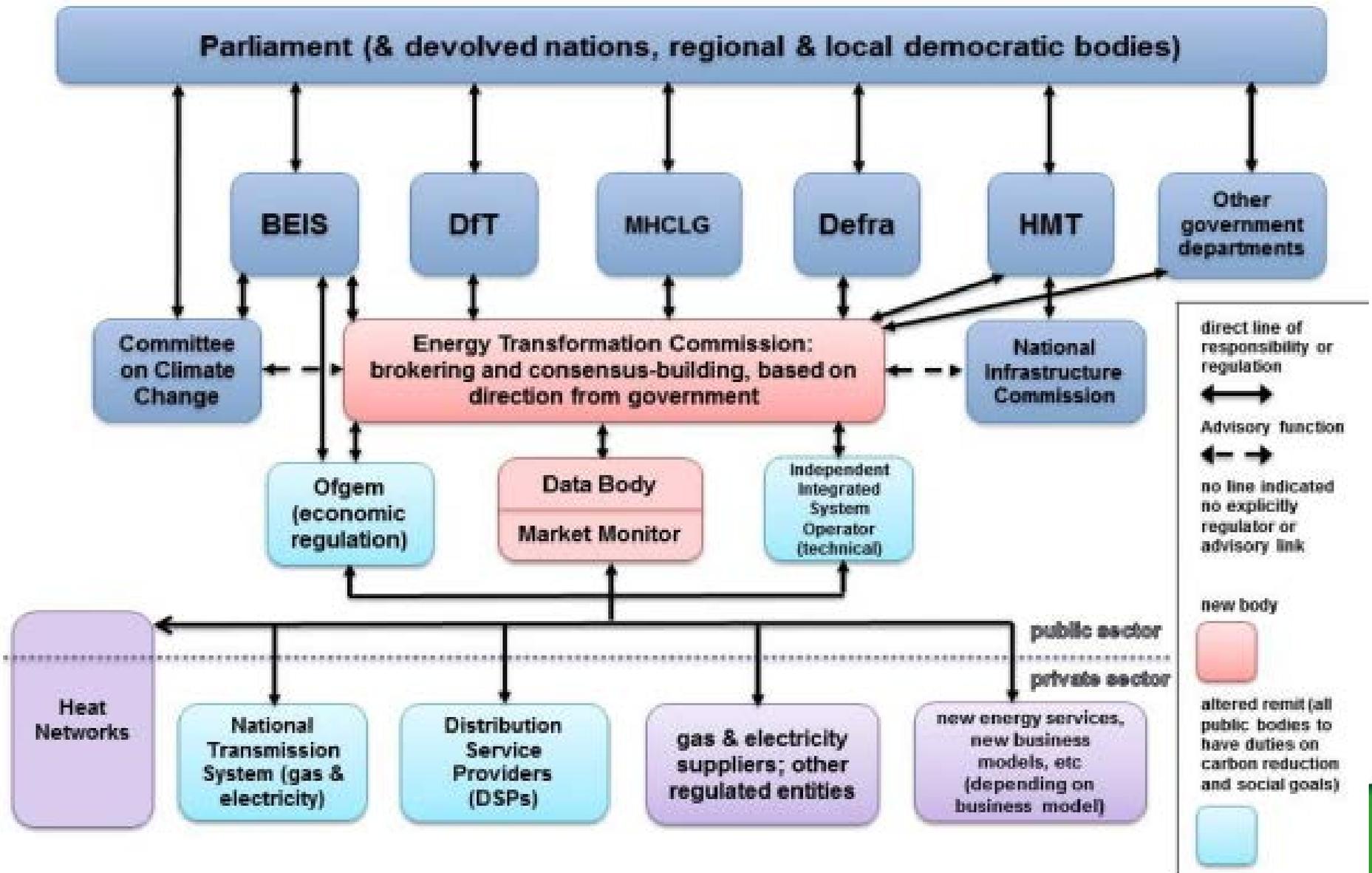
Examples of GB governance dimensions NOT aligned with policy (eg Climate Change Act 2008 etc)	Examples of GB decision-making which undermine whole energy system coordination
Regulatory Mechanism for Networks (ie RIIO)	Lack of direction-setting and transformation management
Codes and Licenses	Dominance of established players
Market Design	Confused signals for market participants
Capacity Market	No clear responsibility for carbon reduction
DER valuation	No clear responsibility for demand reduction
	No clear responsibility for system integration
	Ambiguities around social outcomes

IGov's conceptual net zero whole energy system governance framework

GB energy governance: current institutions and responsibilities



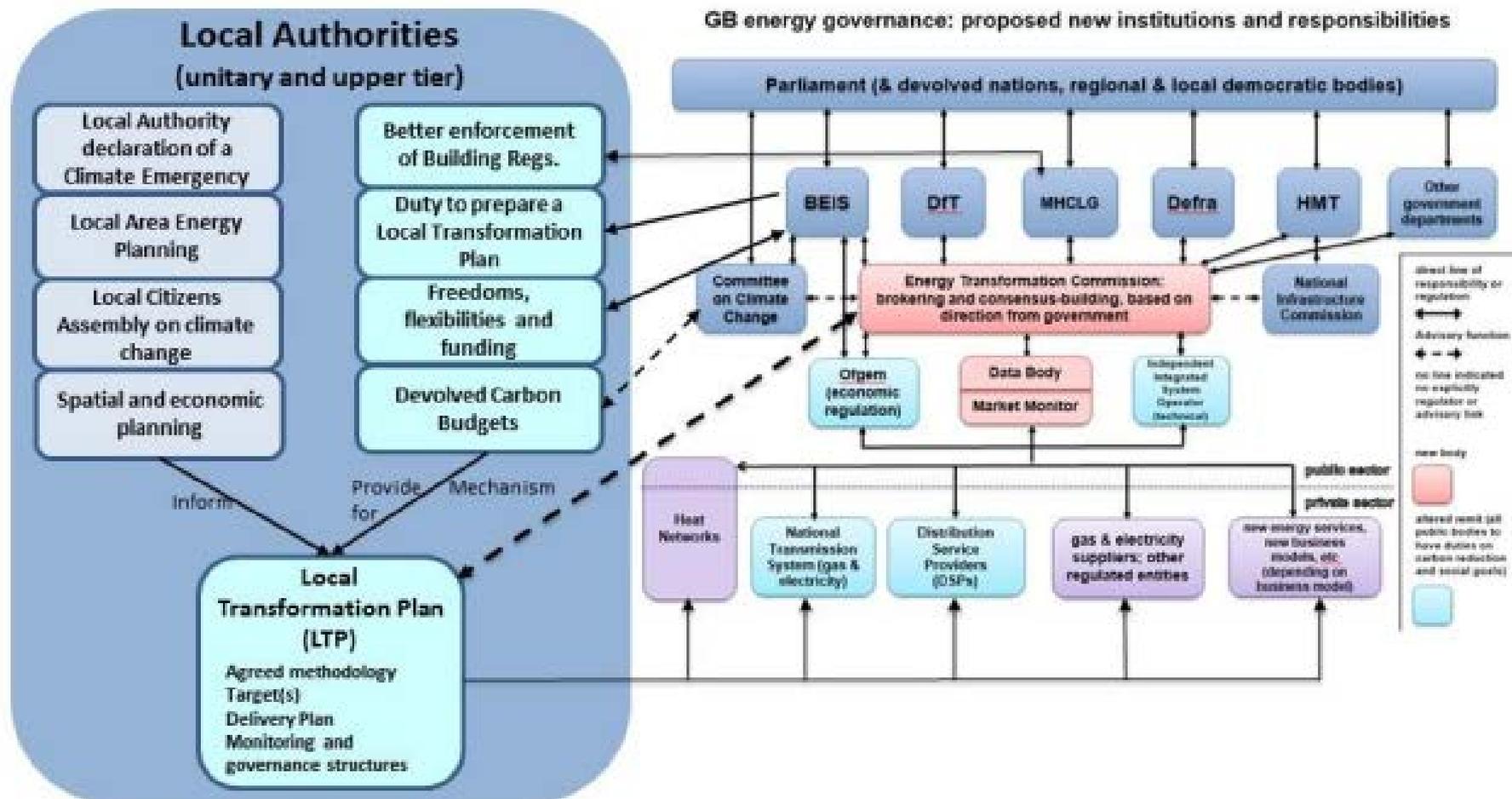
GB energy governance: proposed new institutions and responsibilities



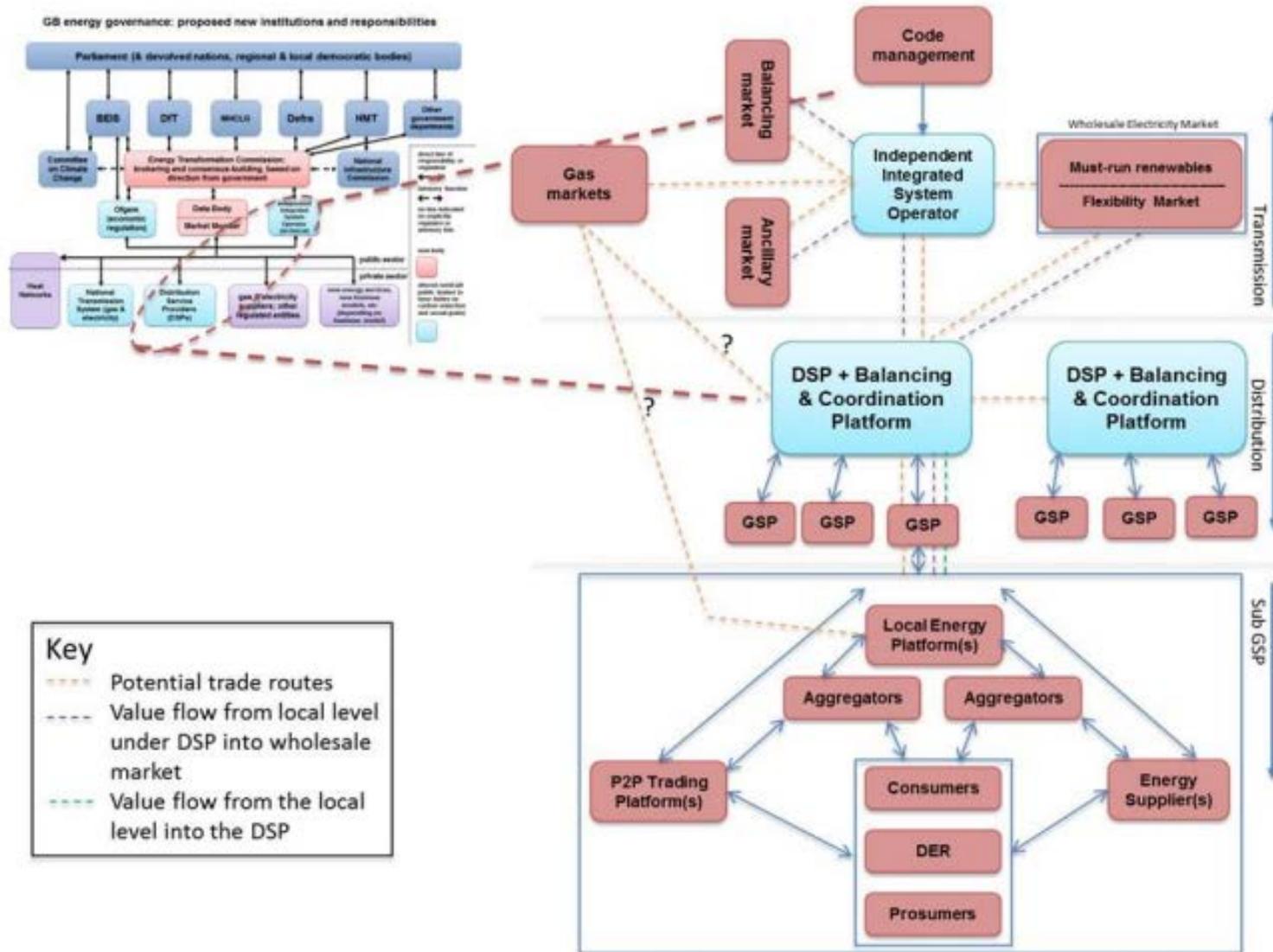
Local Government Dimension has to be coordinated:

<http://projects.exeter.ac.uk/igov/wp-content/uploads/2019/08/IGov-Getting-energy-governance-right-01-08-19.pdf>

Local and national energy governance



Market Dimensions as well: <http://projects.exeter.ac.uk/igov/wp-content/uploads/2019/08/IGov-Getting-energy-governance-right-01-08-19.pdf>



IGov Figure 6: Local market design

Various countries / States are moving towards greater governance coordination to deliver stated objectives

- Different countries have different resources and cultural dimensions
- US
 - California a coordinated approach but from a top-down, legislative, minimal market perspective
 - NY Reforming the Energy Vision (REV) 2014 proactively linking policies, markets and network regulation in a new way
 - Multiple US States between the two
- E. Australia is reacting to rapid energy system change
- Being proactive is much easier than being reactive

CONCLUSION

- We need to understand more about the role and value of coordination to GHG reduction
- We need to understand more about the importance of governance to coordination
- We need to be clearer about what we mean by energy governance
 - Definitions tend to be very theoretical and general
- There is a very limited and dispersed literature on acceleration
 - often using different language such enabling environments; acceleration, policy packages, scaling up, coordination etc
 - mainly theoretical rather than empirical
 - we need more case studies

REFERENCES

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- <http://projects.exeter.ac.uk/igov/primer-energy-system-change-in-eastern-australia/>
- 6 part blog series Comparing CA to NYS
<http://projects.exeter.ac.uk/igov/comparing-nys-and-ca-blog-1-series-overview/>